Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
1	1	1. Unclutter all slides. 2. Most text is way too small. 3. Your presentation is not organized by the SOW Requirements which you list on slides 5-11. 4. Viewer can't navigate through the slides very easily. 5. The slides that introduce new sections aren't delineated very well.	1. Remove the six government logos. 2. Remove unneeded (redundant) text and enlarge the remaining text. 3. Cross reference the SOW Requirement on the other slides where relevant. 4. Add a table of contents slide at the beginning to help the audience. 5. Change the layout of slides (12, 14, 35, 96, 103, 121 that introduce your major topics to help viewer recognize new major topic.	If applicable, ideas will be incorporated into future presentations.
2	1	Acronyms	Please provide definitions of acronyms. Meteorologists are not familiar with the program management acronyms.	A list of acronyms will be provided in future presentations.
3	1	This process for reviewing CDR materials is an excellent method. I've had absolutely no problem downloading the material or accessing the links. The process for submitting comments is very efficient and trouble free. Congratulations to the team members who set this up and maintain it!	Recommend the ORDA management team positively recoginze the indivuiduals responsible for creating and managing this review process!	Noted
4	1	These are general comments on the HW Design Review. Overall, the hardware design is in good shape, I don't anticipate any serious issues with the ORDA hardware. The ORDA team has done an excellent job in documenting the state of hardware development and the web based document review process worked very well. I appreciate the open nature of this review and found I had no trouble accessing necessry documents.I found however, that the ICDs and CI specifications associated with the Sigmet equipment and related interfaces are very incomplete. This does not pose a serious problem for a hardware design review, but may have implications for the software development effort. I'd like to see a maximum of continued cooperative efforts between the ORDA team and ROC subjec matter experts (myself included) in order to complete the necessary documents.	I recommend the hardware portion of the ORDA Critical Design Review be accepted. I also suggest the ICDs and new CI specifications be completed as soon as practical.	The ICDs and CI completion status were detailed in slides 86-88.
5	1	CDR	The CDR package appears to be good, however I would have preferred a formal meeting to discuss issues as a more productive way of conducting this CDR. A CDR is for the developers to tell and show the customers what they are receiving. When a person is briefing, more questions will be asked or generated than from just looking at a slide presentation and trying to guess what was on the developers mind.	Per Mil-Std-1521B, a CDR shall be conducted on each configuration item prior to fabrication / production / coding release to insure that the detail design solutions, as reflected in the Draft hardware product specification, software detailed design document, interface design documents and engineering drawings satisfy requirements established by the hardware development specification and software top level design document. Mil-Std-1521B also states for complex / large configurations the CDR may be conducted on an incremental basis. This review satisfies this requirement.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
6	1	One of the requirements for the CDR is to address any open issues from the PDR. On review of the PDR Action Items, there are several Action Items that are listd as "Final Presentation at CDR". These are listed as closed in the PDR Listing; however, several of these were actually Closed on the statement that they would be briefed at the CDR. There are no indication on any of the CDR Slides as to whether the applicable action item from the PDR was addressed. Many items in the ORDA Preliminary Design Review were marked as “Final presentation at CDR”. The following is a list of Action Items in question: 12, 21, 22, 27, 41, 54, 55, 56, 62, 63. Will these specific hardware and planning questions be answered at the Software CDR? If not, how and when will they be addressed?	Each Item from the PDR that is listed as "final presentation at CDR" needs to be indicated in the CDR presentation. If the CDR slide addresses a PDR Action Item, the Slide should indicate the PDR Item it addresses.	Any action items from PDR that were not reviewed in the HW CDR will be answered with the HW CDR Action Items.
7	1	ORDA Team responsibility for ORPG changes The ROC branch chiefs met with the ORDA Program Manager and ORDA COTR on January 21, 2003. It was agreed at that time that required changes to the ORPG configuration would be divided up as follows: - ROC is responsible for providing engineering data, drawings, and installation instructions to RSIS, the ORDA contractor. Additionally, sites where the RPG is very distant from the RDA, ROC will augment installation teams - The ORDA contractor, RSIS, is responsible for procuring the hardware and installing it. Further, the ORDA contractor is responsible for preparing a list of sites where ROC installation assistance will be needed. The information above has an impact to the contract and the Work Breakdown Structure (WBS), but is not addressed in the CDR package.	The ROC needs positive confirmation that the ORDA contractor is planning for the procurement and installation of ORPG-side modifications necessary for ORDA deployment.	The cost to procure RPG-side equipment is outside of the ORDA contract proposal, 27 Jan 03. The time and cost to install RPG changes can be included in the installation costs - which are outside of the ORDA contract proposal. The ROC must provide a site by site listing of hardware changes for each type of configuration. Additionally, the ROC must provide a site by site list showing the distance and accessibility from the RDA to the RPG for further analysis by the ORDA contractor. We recommend a TIM to review this subject.
8	1	Presentation	Due to my commitments with Agile Release 8.0 training, I could not give this CDR presentation the thorough review It deserves. It appears to be put together fairly well. However, I think some areas a ambiguous and could have been presented better live. There are many areas I have questions on, but do not have time to write comments and they may just be my misinterpretation of the writer.	Noted
9	1	The idea of a "virtual review" is very good. However, the process of accessing files linked to the PowerPoint presentation from the web each time they are needed is time consuming and wasteful of bandwidth. If the "virtual review" approach is to be used again, another method of making the support documentation needs to be implemented.	Create a directory for the support documentation which can be downloaded in a single operation. If needed, password the directory to assure access is restricted.	Noted
10	1	This is the final hardware design review for the ORDA project. A mutual understanding of design detail and the approval of the design are essential before entering the subsequent production phase. The design information contained within the CDR package is not sufficient for completion of hardware CDR in all cases.	The government reserve the acceptance of the Hardware CDR Package until the Software CDR. At that time, the ORDA Contractor will present the results of engineering tests and documentation to complete the hardware design and allow Government reviewers to understand the overall design.	We are prepared to have the Government accept the HW and SW CDR after completion of the SW portion. We recommend a TIM to review any outstanding concerns. Note: this is a critical review, not a final review, as stated in Mil-Std-1521B paragraph 50.1.2.2.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
11	5-10	Slides are titled SOW Requirements - Prototype Phase. Is the CDR limited to the prototype phase requirements?	1. Clarify if the CDR covers only the prototype phase or if the SOW Requirements should be for multiple phases.	The CDR covers the prototype phase. Within the SOW, the requirement to complete the CDR is in the prototype phase. The production and deployment phase of the SOW state that the CDR is accomplished in the prototype phase. Subsequent technical reviews will occur throughout the rest of the project. See Action Item 10.
12	6	The ORDA technical proposal for WSR-88D RPG Interface (C 3.1.1.10) states “TEAM RSIS will translate ORPG SNR data quality thresholds to SIGMET SQI data quality thresholds.” This is not a technically sound solution and will degrade the quality of Radar data in severe storm environments because the threshold discards large spectrum width data vital to the recognition of Tornadic Vortex Signatures. What is the proposed approach? We understand this may have to be the topic of a TIM.	Not Provided	This was not covered during the HW CDR because it is a SW issue. We are aware of this and so is SIGMET. Dale Sirmans shared this analysis with ORDA staff. Team RSIS will modify the software to include separate SNR thresholds for R, V, and W.
13	10	Common Support Equipment	Question Are there any other pieces of equipment needed? If so, a SERD needs to be submitted.	We need no other Common Support Equipment than what is already in the system. We will identify those pieces of Common Support Equipment that may be removed from the system for NEXRAD support.
14	10	For Item 3.1.8, Common Support Equipment, paragraph II.B. in the attached Statement of Work (for installation) indicates the the government is responsible for providing CALIBRATED test equipment as per Table 1-23 of EHB 6-500 (which must be updated for ORDA also). There is no guarantee that a site will have necessary calibrated test equipment on hand to complete installation requirements. This could seriously jeopordize completion of installations. It would seem that if calibrated test equipment is required to complete specific INCO requirements, it would be prudent for the installation teams to hand-carry the necessary test equipment with them.	Need further discussions on this issue at the requirements/contract level.	The calibrated equipment we need is the same calibrated equipment required to maintain the radar. In addition to our website schedule, we will be contacting each site 4-6 weeks before scheduled team arrival to ensure calibrated test equipment is available. The Government has agreed to provide the calibrated test equipment. We will review this issue and make a recommendation to the COTR.
15	10	The SoW indicates that the government will provide calibrated test equipment for installation. What pre-coordination will be made with the site to ensure the site’s equipment is in place and calibrated? When will the government know what’s needed and what is the contingency plan if the equipment is not on-site?	Not Provided	See Action item 14.
16	10	In document "Orda%20installation%20sow%20equipment.pdf" could not find which items are suppose to be "… ** These items are Shared Support Equipment and must be ordered from the National Logistics Supply Center."	Identify which items are Shared Support Equipment and mark as such.	We do not anticipate needing any Shared Support equipment in our install. The document will be updated accordingly.
17	10	Slide 10 indicates the Government has accepted blue text items. Slide 11 items are all in blue text. Schematic Drawings and 30% tech manual review are in blue text implying the government accepted these items in January 2003. Have the items been accepted by the government for meeting drawing standards and technical content, or just drawing standards? If just for drawing standards, when will the technical review and acceptance be completed?	Not Provided	Upon acceptance of the Hardware CDR by the Government, the drawings and technical content will be accepted. The drawings will be updated to reflect the final design for FCA/PCA.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
18	13	Interchanging project names and sub-system names. ORPG and ORDA are project names. The RPG and RDA sub-system names have not changed.	To prevent having to change documentation later to reflect this point, please keep these distinctions in mind.	Agree
19	15	Show Deployment Readiness Revie of 8/2004 and slide 24 show this in 9/2004.	Correct slide as necessary.	We will update to 8/2004
20	15	The schedule graphic is incorrect. According to the SEMP (ORDA-001), Table 3-1 & the TMP (ORDA-009), Paragraph 4.1, the Prototype Phase "… Begins after SDR and ends with Integration Test Readiness Review (ITRR)…" (note the graphic in the SEMP, Figure 3-2 is also inconsistent with the text .) So "prototyping" actually will continue until about the end of October, 2003 and be declared "over" at the successful conclusion of the ITRR.	Correct graphics on pages 15 & 122 and all associated documentation.	According to the SOW, the slide is correct. ITRR is conducted during the production phase. Successful conclusion of CDR begins the production phase.
21	15	The slide shows that the CDR milestone precedes the assembly and testing of the prototype. My question is, how can an effective and adequate CDR be performed when the prototype testing and evaluation has not been fully accomplished. In the normal world, the CDR usually follows any prototyping so that a more thorough picture of the Production phase requirements can be gleened. Please explain why the CDR precedes the completion of the prototype phase.	The CDR should contain enough information about the prototype so that informed decisons can be made about whehter to proceed into the fullscale production phase. Most, if not all possible design constraints should be described at the CDR. Please explain whether or not, there will be a follow on CDR or other Technical Review to discuss findings from the prototype phase that could have a bearing on the Production design.	The NPI Manager approved combining the LRIP and full scale production phases into a single full production phase. PRR and STRR will be conducted to authorize full scale production. There will be follow-on TIMS per Mil-Std-1521B paragraph 50.1.2.2.
22	15	Slide 15 does not indicate when the FCA/PCA will be conducted although they are required for deployment decision. When will these two audits be performed?	Include the FCA/PCA bubbles in the slide since theoretically, deployment should not begin until this required review is accomplished.	FCA and PCA will be added to the Target Project Schedule. FCA will be conducted before deployment. PCA will be conducted on each of the 4 configurations (i.e Beta Test) during deployment.
23	16	Both the CTRR & the ITRR are missing from this chart. They are both major activities and represent significant go / no go decision point preceding entry into the Production Phase.	Add to 2003 Target Project Milestone Chart and associated schedules, etc.	ITRR will be conducted in October '03 and is included on the Target Project Schedule (Slide 15). According to the SOW, ITRR is completed during the production phase. CTRR(Component Test Readiness Review) will not be conducted. It is incorporated in CDR and not list as a review in the SOW. See Action Item 58.
24	16	Slide 16 relates specific milestones to events. The milestone descriptions are very high-level. For example, Adaptation Data is listed as a milestone, but no definition is given for the tasks required to meet the milestone. Does reaching this milestone indicate all adaptation data is defined, that all the management tools required are defined, and that the storage and access methods are defined? Specifically, what tasks are accomplished prior to each milestone?	Not Provided	Tasks pertaining to acheivement of milestones will be described in the WBS.
25	18	Slide 18 indicates under “closed actions” that the ORDA Contractor has “Completed Development Activities.” Are all development activities complete? If not, when will they be complete?	Not Provided	Development Activities as described on this slide pertain to the functional allocation. Functional Allocation was completed in December '02. All development activities will be complete by System Test Readiness Review in March '04.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
26	21	How will the CIs (and CPCIs for SW) being changed be "linked" to the SOW based WBS structure? Will each "Cost Account" be able to be referenced by both SOW & CI? The left hand side of this slide shows "Requirements" not "Cost Accounts."	As part of final WBS definition, please describe linkage using both WBS and CI.	CIs and CPCIs will be linked back to the WBS through the relationship described on Slides 21 and 23. The cost accounts will be work breakdown packages (slide 26) and they will reference the SOW and CI with a description of the SOW Prime Mission product paragraph and CI number.
27	25	RSIS is updating / writing many ICD and specs beyond the 4 CIs being changed (see Slides 85-88). How is this being accounted for in the WBS, particularly for those items which do not have an interface with the 4 CIs in question. (I assume there will be some sort of linkage from the SOW based WBS items to the individual CI/CPCI being modified)? Will the corresponding Test Documentation (Plans / Descriptions / Reports need to be updated) ?	Identify / link documents to WBS.	CIs and CPCIs will be linked back to the WBS through the relationship described on Slides 21 and 23. The WBS will define all tasks need to complete the project, so tasks that do not directly link to a specific CI will still be identified.
28	22-23	Unsure of process to verify Project Plan. Can someone explain it off-line to me?	A simple phone call will do.	The WBS will be available for review to clarify outstanding issues and concerns.
29	24	I do not understand the distinction between Hardware / Software / Testing / System Support under the different "Test Phases" listed. Perhaps under Component Development, items are separable, but is that also true for the other periods?	Please explain use of Hardware / Software / Testing / System Support under the different "Test Phases" listed.	The use of the Hardware / Software / Testing and System Support are labor groups used to accomplish tasks within the project.
30	24	One day for Reviews is too optimistic. Past reviews have been 1~2 weeks, including preparation and presentation.	Please correct Project Plan accordingly.	The reviews are listed as milestones. Preparation and response time will be added to the WBS
31	24	Please explain the rationale for being able to have the STRR and the PRR simultaneously on 3/18/04. Will all the information needed to make the PRR decision be available by this time? I do not get that impression from what I have read in the SEMP (although section 3.3.2.9 of the SEMP could use some work).	Please explain rationale.	The STRR and PRR will occur in March '04 but not necessarily on the same day. The WBS will indicate timing.
32	24	The Production Phase does not start until after the successful completion of the ITRR (see previous comment Slide #15).	Please correct Project Plan accordingly.	According to the SOW, ITRR is completed during the production phase. See Action Item 21.
33	24	Under each of the phases on slide 24, Hardware, Software, Testing, and Systems Support are given numbers (1.0, 2.0, …). What do the numbers signify?	Not Provided	The numbers are used for project tracking.
34	25	Appears that the Date for Prototype Order of 12/2003 is wrong	Verify/Correct Date for Prototype Order	We will update to 12/2002
35	25	Is there a scheduled due date for the completion of the lower level WBS?	Specify due date for WBS and complete & track. Update documentation (for example, SEMP 7 Appendix: Example ORDA Work Breakdown Structure)	The WBS will be complete by the end of March '03 and in conjunction with the presentation of the SW CDR.
36	25	What is the scheduled completion for WBS Packages (slide 25)?	Not Provided	The WBS packages will be complete by the end of March '03 and in conjunction with the presentation of the SW CDR.
37	27	How can CDR package be identified as complete when the software part is not provided.	Clarify what is complete.	The presentation of the HW CDR is only for acceptance of the HW portion. The SW portion of the CDR will presented in March '03. Per Mil-Std-1521B paragraph 50.1, a CDR may be conducted on an incremental basis, I.e., progressive reviews are conducted versus a single CDR. Paragraph 50.1.2.2 addressed post CDR reviews.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
38	28	ORDA Assembly Plan. 3.2.1 A1-11 & A1-17 Please define RADAR Site when referring to shipping. (WFO, RDA, etc.)	Are the deployment kits drop-shipped to the RDA site?	For FAA sites, RSIS will ship kits to listed FAA-recommended addresses. For NWS and DOD sites, we need recommended addresses. All addresses will be verified prior to shipment.
39	28	In the Assembly Plan, Section 2 Assembly Milestones is TBD.	Update documentation	We will update the documentation.
40	28	Assembly Plan	In the assembly plan, I did not see any reference on how to handle Static Sensative Equipment.	Static Sensitive Equipment will be handled using ESD protection devices and will be covered in our Assembly WPIs.
41	28	Assembly Plan, 3.2.1 B1-17. Referencing hardware revision: How will you maintain hardware revisions during prototyping and phases of deployment?	Explain how a new revision will be integrated into the system.	Team RSIS QSCO process documents the hardware revision process.
42	28	Assembly Plan, 3.2.1.2.1 Radar Site Order, what would the RADAR site order?	Please define pre-INCO, INCO, post-INCO?	Radar site order is an internal contractor term. It's a term we use internally to describe the listing of hardware and software items we need to ship in order to upgrade an RDA Shelter. The radar site will not do any ordering. Installation Plans and INCO Procedures will be published in Summer '03.
43	28	Assembly Plan, 3.2.5 M1-17 Where is the Quarantine Area?	Please provide figure comparable to figure 3-4 and show its relation to figure 3-4.	The Quarantine area will be located in our Warehouse. When we secure our warehouse, we will create a diagram depicting our Quarantine Area. If this information is needed, it will communicated through our OST Project Engineer.
44	28	Assembly Plan, 4.2 What media will be used for options 2 & 3.	Please define what type of media will be used for transportation of Adaptation data.	At this time, it is under review as to which type of media will be used for transportation of Adaptation Data. Once this is finalized, we will communicate our decision. For new builds, post-deployment, adaptation data should be on CD-ROM.
45	28	Assembly Plan, 7.2 Random testing of parts	If a failure is found in a product, how will you determine if the other items in the same shipment, or with same revision are subject to same failure.	Control Plans will be developed to document our inspection process and our corrective action procedures.
46	28	The Assembly Plan appears to lack guidance on the handling of Electrostatic Discharge (ESD) sensitive hardware.	Not Provided	See Action Item 40.
47	28	The Assembly plan section (3.2.8) states “The Deployment Team will download the adaptation data at the RADAR site via the SCSI onto the RCP8/RCW host computer.” In the workflow, this takes place prior to the equipment being shipped to the site. Can you please clarify how the adaptation data is going to be retrieved, what media will be used to load adaptation data, and how this fits into “3.2.11 Load adaptation data server…” ?	Not Provided	See Action Item 44.
48	28	Has the philosophy for installing Adaptation Data been finalized? The Assembly Plan describes certain options while Slides 104 & 105 are slightly different? When does the final decision need to be made?	Identify date to finalize process to do initial installation of Adaptation Data and document accordingly.	See Action Item 44.
49	28	In CMP, please correct numbering / title problem in section heading (for example Item #70 3.0-2.1 Government)	Update documentation.	We will update the documentation.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
50	28	In CMP, Section 4.1.1 Prototype Phase makes no reference to ITRR or the SOW. Should they be referenced here?	Update documentation as necessary.	See Action Item 23. The CMP will be updated to include ITRR in the production phase.
51	28	In CMP, Section 4.1.2 Production Phase, FCA/PCA is listed before ATRR while in the SEMP the FCA/PCA (properly) follows ATRR.	Update CMP to show proper ordering of activities.	We will update. See Action Item 22.
52	28	In the Maintenance Plan, Section 3 Reliability Analysis & Table 3-2. ORDA retrofit equipment provisioning parts list (preliminary). seems to have a slightly different value that what is presented in CDR Package Slides 109-110)	Update documentation with new values.	We will update the documentation.
53	28	Maintenance Plan, 3.1.2 MTBF does not include floppy drive.	IF the drive will never be used (not included in MTBF calculation) would there be a cost savings for the government to remove if from the baseline configuration?	There is no floppy drive.
54	28	Maintenance Plan, 4.2.6 Contractor spares will protect the deployment schedule.	How will the contractor support the NEXRAD 24/7 if no spares will be deliverd to the NLSC until the end of the project?	Spares will be delivered to the NLSC throughout deployment. The first set of spares will be delivered 90 days before deployment starts. Gov't sparing models will determine the amount of NLSC inventory.
55	28	Section 4.2.6 of the Maintenance Plan indicates that the ORDA Contractor will provide to protect the deployment schedule. Please clarify when the NLSC will take over support for the operational sites.	Not Provided	See Action Item 54. NLSC will take over support for each operational site once each installation is complete and the INCO is approved by the COTR or designated representative.
56	28	Table 3-2 ,ORDA retrofit equipment provisioning parts list, of the Maintenance plan lists all the RCP08 and RVP8 drives except the 3.5" floppy drive seen in the CDR package photos. Are the floppy drives being removed from the final configuration?	Not Provided	See Action Item 53.
57	28	Update TMP 5.1.4 Technical Manual Matrix with information presented on Slide 114 of CDR package.	Update documentation	We will update the documentation.
58	28	Is the Component Test Phase (from TEMP) the same as Component Development Test Phase (from SEF)? If so, the terms should be consistent.	Not Provided	Yes, the Component Development & Test Phase is a hybrid phase that encompasses concurrent hardware & software development and formal component testing. For example, one software item is being developed while another is being formally tested. Rather than employing a serial development process (strict waterfall), a parallel component development & test process is being used during component development & test phase.
59	28	In TEMP, please update Figure 1. ORDA schedule to reflect information presented in CDR package.	Update documentation.	We will update the documentation.
60	34	The CDR package indicates that RAPS "provide traceability between functional allocation and Design Synthesis." Although RAPS are not CDRLs, they were reviewed to better understand where the ORDA contractor is at in regards to design. Are the RAPS currently in DOORS completed? They appear to be missing design synthesis details.	Not Provided	The RAPs will be continually updated as information becomes available. We will document the design synthesis details as they become available during the actual component development & test phase following CDR.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
61	35,36	Technical approach Hardware	You mention using parts already in the system where feasible. Are you also going to apply this to standard off the shelf Hardware (screws, nuts, bolts, clamps, etc.). And use Mil (MS or ANSI) Hardware where available. Using standard Mil hardware may cost more initially. However, with the cost to stock list new items and yearly stock bin charges, this could save money over the life of the project.	Concur, we are purchasing hardware (bolts, clamps, etc.) to install our equipment. We do not anticipate using hardware that is not already in the system.
62	36	The ORDA team met with ROC Engineering in mid-2002 to discuss Remote RDA Access. In particular, the Remote HCI and the MSCF's role within the ORDA were discussed. The ORDA contractor's technical proposal identifies the potential hardware platforms, but the CDR package does not identify any specifications or requirements for the hardware.	Incorporate the absent hardware information into the Software CDR scheduled for March 2003	We will specify the minimum computer hardware and software requirements to run the RDA HCI. This hardware is NOT part of ORDA since the RDA HCI is designed to run on any platform with an appropriate JVM (Java Virtual Machine). The information will be presented at the SW CDR in March '03.
63	36	The technical proposal provided by the ORDA contractor indicates that they "will ensure remote RDA access capabilities at sites that do not have dial-up connectivity." What ORDA hardware will be used to accomplish this?	Not Provided	For FAA sites, we are providing RDA HCI access through the RMS equipment. For other sites, we will use existing remote access capability with ORDA software.
64	36	When will the ORDA team complete the wideband analysis?	Not Provided	Wideband analysis will be completed when we have all the equipment to test the wideband. A paper study has already been done by us and by the ROC. We are preparing an official white paper.
65	36	Under Future Expandability or on another slide could we see some more definitive numbers and capabilities that have direct relationship to future ORDA and Dual Polarization enhancements? For example, how many extra slots and what types of cards are available?	Not Provided	Four (4) PCI slots are available for future expandibility. See Slides 52 and 55.
66	36	Under Add Required Processing Capability to Meet GPRA Goals which NWS GPRA goals are being referenced here and does additional hardware have to be added to meet those goals?	Not Provided	We will accomplish what is required in the SOW paragraph 3.1.1.1., derived from the December 20, 2001 NEXRAD Product Improvement Capability Enhancements Planned Science Improvements Status Review for the NWS Director. On June 18, 2002 a TIM was held at the ROC that identified 27 Items. A follow-on TIM was held at the ROC with SIGMET to discuss the 27 items, 15 are standard with the RVP-7.
67	36	Since only the NWS has GPRA Goals directly tied to the successful implementation of the ORDA I would suggest changing or adding a new bullet to read: Add Required Processing Capability to Meet Tri-agency goals and again define what some of those required capabilities are.	Not Provided	See Action Item 66.
68	36	Add Required Processing Capability to Meet Tri-agency goals and again define what some of those required capabilities are.	Not Provided	See Action Item 66.
69	36	Are there enough slots in the current card rack to accommodate all known upgrades?	Not Provided	Yes. See Action Item 65.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
70	37	Is there more technical information available on the first several bullets on this slide?Control Receiver DirectlyEliminated the 4A32 Receiver Interface Increases FlexibilityMonitor the RF Test Input DirectlyEliminated the 4A31 Test Monitor Eliminated 3 of the 4 4A31 SignalsMoved A/D Conversion into RCP8We are interested in details of the receiver control and diagnostic design. The ORDA team have white papers available on this topic or can the ORDA engineering team meet with ROC engineering to elaborate?	Provide technical details or support a TIM with ROC Engineering	We will discuss at a TIM.
71	38	Slide 38 indicates the RPG link is always a “Private” T1. The NEXRAD network also uses commercial T1 links. “Dedicated, Point-to-Point T1” is a more appropriate description.	Not Provided	Agree
72	38	Indicates that the RPG link is always a Private T1. We also have Commercial T1 links.	Determine impact, if any, opf use of Commercial T1 links on Security Requirements.	We are working with Cynthia McDermott to address System Security. Cynthia is working with the ROC Engineering to obtain Nexrad Security Certification and Accreditation.
73	39	Indicates keyborad/monitor approximately 30 inches off floor and that could only be used when sitting in a normal chair. If used while standing, it would need to be higher. Slide 46 appears to show it about 40" to 45" off of the floor which may meet the requirements for standing (and high-stool seats).	Deteremine correct location IAW MIL-STD-1472	Our actual location will be approximately 41 inches from the floor.
74	39	Keyboard/Monitor at comfortable level (Approximately 30 inches from floor)	The keyboard will be operated from a standing position infrom of UD90/190. According to MIL-HDBK-759C (Human Engineering) from a standining position keyboards and trackballs should be located 40 to 42 inches from the floor. (See page 145 of MIL-HDBK-759C)	See Action Item 73.
75	40	Electrical & Mechanical	This only a comment. I am amazed that the changes will reduce power load by 5 kilowatts. I didn't realize the legacy RDA used that much power, let alone that going digital would offer such saving.	Five (5) KW is from engineering analysis. Load will be measured and published.
76	40	The bullet to balance load current is unclear. What load? balance how if single phase.	Clarify load balancing, especially with respect to the FAA sites that had a large project to balance the whole systems load current.	We will not be doing the actual load balancing. We will be identifying our loads and the changes our installation causes to the loads on each phase. We will attempt to make our changes as easy as possible on phase loading. We will continue to work with the FAA on this issue. (This is a Rotary UPS issue.)
77	42	This slide does not provide any bullets on two additonal Environmental issues that are germane to the Critical Design Review: (1) Temperature and Humidity, and (2) Pressure and Altitude. Information is especially needed on the Sigmet components and any new component added to the RDA design. This is required because the WSR-88D system consists of several sites with RDAs at or near the 3300 meter altitude limits set by the WSR-88D System Specification. During qualification testing of the prototype, it will be necessary to determine if all proposed hardware items meet or exceed the SS requirements in these to critical areas. If they do not, then waivers to the SS will be required for those components not meeting the requirement. Since the pressure and altitude requirements could affect the critical design, the required information will be needed prior to going into fullscale production.	Please identify whether or not all proposed hardware components meet or exceed the SS requirements for (1)Temperature and Humidty, and (2) Pressure and Altitude. If unknown, please identitify when this information will be made available.	The HW Component Test Description (Appendix B) describes that all new components will be analyzed for environmental compliance, including (1)Temperature and Humidty, and (2) Pressure and Altitude. Waivers will be prepared as necessary.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
78	45,58,59,60	The ORDA Base Architecture and associated communications slides make no mention of how comunications will be handled at those sites configured as Microwave Line-of-Sight (MLOS). Under the Legacy System, CI-06 contained all of the requirements and equipment for communicating with MLOS sites. CI-06 was eliminated in the ORDA Design, however, the MLOS equipment still exist in the baseline. There should be a design view of the MLOS communications configured sites, e,g, Los Angeles, Medford, Missoula, Twin Lakes, etc.	Please explain how communications will be handles at MLOS configured sites. Also, describe where the existing MLOS equipment will be re-allocated since CI-06 was elininated from the ORDA baseline. This affects the B2 and C2 specifications for the MLOS and should be accounted for in the documentation.	ROC has added CI-06 back into the Product Structure.
79	46,47	The next major hardware upgrade phase of the NPI program is to add dual polarization capability. The current design under consideration requires two receivers, possibly a second Sigmet IFD and digital receiver card. Does the ORDA interconnect design and cabinet layout allow efficient growth into a two receiver configuration?	We would like to discuss growth to dual polarization with the ORDA engineering team.	Our design will allow migration to Dual Polarization.
80	47,48	We note the design retains the log amp detector. The slides depict the log amp detector output provided to the RCP-8. Is this a correct interpretation? What is the purpose of this signal and how does the Sigmet system use it? Is this a system diagnostic or calibration function?	We would like to discuss the use of this signal path with the ORDA team. On a more general note, we are interested in all aspects of system calibration and diagnostics with respect to the integration of the RVP/RCP-8.	The Log Amp Detector being retained is only for the 10 position RF switch and is only used for diagnostics and calibration. We are not keeping the other legacy Log Amp Detectors (4A12 and 4A27).
81	46	I could not make out the reference designtor plates in the drawing.	Do they conform to ANSI Y32.16-1975? Have they been created with the maintenance philosopy in mind?	The Reference Designator plates conform to the ANSI standard. Hard copies were provided to the ROC and they are easier to read.
82	46	On slide 46, the ORDA configuration drawing does not include required reference designator plates.	Not Provided	There will be ref des plates for all LRUs. All reference designator plates for components mounted from the front of the cabinet are shown. Components shown as dashed lines are mounted from the rear of the cabinet and their ref des plates are attached in the rear of the cabinet.
83	47	ROC Engineering is developing an Archive I device for use with the ORDA. The Archive I system wil connect to the ORDA RVP-8 via a Gigabit ethernet port. Where will this connection be physically?	RSIS engineers would like to discuss the physical connection of the Archive I host computer to the ORDA RVP-8 signal processor with ORDA engineers.	The connection will be directly to an RVP8 Ethernet port.
84	47	The addition of a splitter, attenuator, and RF mixer for the IFD COHO burst input is an interesting solution. We understand this is for supplying the transmit sample to the digital receiver. ROC engineers are interested in more details on performance analysis of this subsystem and would like to learn about the harddware specifications for these components.	We would like to meet with ORDA engineers to learn more about this subsystem.	We are performing this analysis and would be glad to meet to discuss.
85	47	The present specification for the 4A5 Mixer/Preamp (1213635) indicates the Stalo Power at J2 should be +15 +/- 1 dBm. Present technical manual procedures indicate that the power should be +14 to +17 dBm. The splitter that has been added in this circuit drops that power level to 4A5J2 by approximately 3.3 dB so the power level could not meet the requirements of 1213635.	RSIS and the government should validate if the Stalo power drop to 4A5 has no significant impacts on the performance characteristics of the 4A5 Mixer/Preamp. If necessary, update Stalo power level specified in 1213635.	We are aware of this and are investigating. We may add an amplifier to the STALO output.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
86	48	Remove 2A5 and AT12. Keep 4A12 and 4J14 for trouble shooting purposes. Maybe you want to use 4A5J4 instead of 4A5J3 as input to IFD as we did on KOUN. Rename 4DC2 Coupler. Make sure you keep the ability to phase shift COHO for Vel and SW Check (J5 input to 4A1???)	Fix	We will remove 2A5 and AT12 from the drawing. For troubleshooting, one of the outputs from the 10 Position RF Switch is the same as the Log Signal from the 4A12. We will look at the output of 4A5 we're using for our IF input to the IFD. The 4DC2 is legacy equipment and will not be changed. The RVP8 provides phase shifting for the COHO using the control cable to 4A1 (4W405).
87	49	Will the system have hardware to obtain a synchronized time source (e.g., GPS receiver)? If not, will the RDA operating sytems manage time synchronzion (e.g., from the RPG or AWIPS).	Please state how the RDA time (i.e., used to time stamp each base data radial and all other messages) will be synchronized to an external source.	We will address this issue with the COTR.
88	47,48	Slide 47 and 48 are contradictory. Slide 47 indicates the 4A25 (Noise Source) is feeding 4A22J2. This is not the way the legacy is wired, nor is this change indicated on slide 48, WSR-88D Signal Paths. The remaining jacks on the 4A22 are left unlabeled and open on slide 47. Which drawing is accurate?	Not Provided	Slide 48 is correct. We will update slide 47 to correct the Noise Source feed into 4A22. The unlabeled jacks are the existing legacy jacks. Slide 47 is not intended to be a complete receiver signal path diagram.
89	47	No TESTRF output from 4A1 RF Gen.2. 4A5 Mixer out shown as J3.	1. Add 4A1J3 going to 4A22 4 Pos Sw2. We used 4A5J4 Mixer output to feed IFD on KOUN3. General comment - since this slide is ONLY System Control Wiring, maybr signal wiring shou;d not be shown. Signal wiring is shown on slide 48.	See Action Item 88
90	49	Need to add CPCI's for RDA Adaptation Data and Geographic maps.	Fix	We will conduct a TIM with the ROC concerning CPCI-26 and other support CPCIs.
91	49	Slide 49 identifies the primary CPCI's and CI's. All the Support Software CPCI's are missing with the exception of CPCI-22 which only lists CM Production Utilities. For example, CPCI-26 for Adaptation Data management is left out. Are these CPCI's not being developed?	Not Provided	See Action Item 90.
92	49	The System Design Architecture (slide 49) defines a Remote HCI, but there is no associated Hardware CI. Where are the associated requirements for this hardware defined and what are they?	Not Provided	See Action Item 62.
93	50	IFD - Prototype is Rev. D. Deployed system will be Rev. E. Why the change? What differences will there be between the Prototype & Deployed configurations?	Provide information regarding design changes and impacts.	The major difference between Rev D and Rev E will be the sampling rate (36Mhz vs 72Mhz).
94	50	Keep Log Detector for trouble shooting	....Please!	See Action Item 80 & 86.
95	50	The list of items retained includes "...log amp" Per slides 47 and 48, this may mean "log amp detector".	Update slide if appropriate	Yes, it means Log Amp Detector.
96	50	This slide along with slide 48, indicate the pre-select filter is to be retained. With the incorporation of the EMI filter at the input to the LNA, is the pre-select filter still required?	Suggest examining the need for retaining the pre-select filter and discuss with ROC engineers.	Yes, this filter has a different bandwidth than the EMI Filter. We will discuss this with ROC engineering.
97	50	The present specification for the 4A5 Mixer/Preamp (1213635) indicates the Stalo Power at J2 should be +15 +/- 1 dBm. Present technical manual procedures indicate that the power should be +14 to +17 dBm. The splitter that has been added in this circuit drops that power level to 4A5J2 by approximately 3.3 dB so the power level could not meet the requirements of 1213635. Has the ORDA Contractor done any analysis to determine the impact of this to the operation of the system? Will the specification for the 4A5 be changed?	Not Provided	See Action Item 85.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
98	50	For a dual polarization upgrade is a second receiver card required? How much additional processing power is needed to perform the basic 4 dual polarization estimator calculations? Are other processor cards required?	Not Provided	The anticipated dual polarization upgrade includes a second receiver card. The RVP8 is capable of dual polarization and it is performed in SIGMET's standard configuration.
99	51	Add some words that BITE (diagnostics, cal) is included	... Please!!	The RVP8 includes BITE for Power On Self Test (POST) and Run-time Diagnostics. We can discuss during a future TIM with the ROC.
100	51	Slide 51 recounts the ORDA's ability to meet future enhancements. Where is the engineering analysis that outlines the number of base data streams possible, the number of data quality streams possible, whether all enhancements can be handled at the same time, and what is the processor utilization at these levels? This analysis is required to meet the specification and is needed for planning future enhancements.	Not Provided	SIGMET's system meets these new science requirements. The OST is responsible for this analysis and possible future builds.
101	51	Regarding bullet titled "**Multiple Base Data Streams for Tailored Processing**" there has yet to be a tri-agency agreement on how many multiple streams will be required. The FAA requires one data stream, which has clutter filtering enabled according to their specifications. I don't know how many other streams are required by the NWS and the ROC but the statement at the top, viz., **Sufficient Processing Power for RDA Enhancements** may have to be revisited and quantified. If the sizing study is for only two base data streams I suggest changing that bullet to read: Two Base Data Streams with Varied Clutter Filter Settings	Not Provided	Future Requirements have not been defined. Our understanding is based on 2 data streams, one with clutter-filtering and one without. See Action Item 100.
102	51	does the delivered Signal Processor have sufficient power to allow implementation of those listed enhancements without additional hardware upgrades?	Not Provided	Yes. SIGMET's system meets these new science requirements. See Action Item 100.
103	54	Legacy Components which currently are part of CI-05 (UD5/105) that will be reused under CI-15 are not listed. Example: the Maintenance panel, currently UD5/105A2 will be reused in the ORDA Design. Under what CI will the Maintenance panel (A2), Power Amplifier (A7) and Pedestal Control Unit (A6), etc beassigned in the new design? Reference also Slides 63, 64, and 65.	Please identify legacy components that will be reused under their appropriate ORDA CI, much like what was done with Slide 50 for CI-04, Receiver, and Slide 61, Power Management.	A2 will be in CI-16. A6 & A7 will remain in CI-02.
104	57	Add some explanatory words (ie., 2where tcp/ip is used) etc for us unwashed peasants	...please.	Drawings will be updated with further explanations.
105	57	This slide discusses the LAN and access. A capability to remotely access the Archive 1 system is a desired feature. This allows engineers and scientists to install the Archive 1 device, and then remotely start and stop recording based on meteorologic conditions. Will it be possible for remote operators to access an Archive 1 device given the LAN and system security design?	Consider remote access for Archive 1 in further development actions, advise ROC Engineering regarding remote control issues.	Archive I is a ROC design and we will continue meeting with the ROC to discuss.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
106	57	Slide 57 indicates the ORDA contractor will be using an unmanaged LAN switch, but will also be using SNMP. No further detail is provided. An unmanaged switch cannot reply to SNMP requests. In a remote environment such as the RDA, an SNMP-enabled switch allows for some maintenance and troubleshooting. Is the ORDA contractor using SNMP for parts of the system and not for other parts? Why is an unmanaged switch proposed?	Not Provided	We are using SNMP where it is possible and does not add significant cost. We are not able to justify the additional cost of a managed switch for our needs just to get SNMP. The LAN switch we are proposing has a MTBF of 490,560 hours which translates to approximately 3 failures a year for the entire NEXRAD system.
107	58, 59, 60	Please clarify the diagnostic link's usage (slides 58,59, and 60). The term diagnostic implies something other than Remote HCI connectivity. What will this link be used for?	Not Provided	This link is used for Remote access to the RDA HCI for troubleshooting and diagnostics. It is also used for out of bandwidth access to the power manager to reboot recalcitrant devices.
108	59	Slide 59 indicates an "HCI" connection between the two LAN switches (FAA Configuration). What is this connection and what traffic is expected over it?	Not Provided	This is a LAN Connection. Since only one channel at a time can be connected from the RPG to the MSCF, this provides an avenue for our RDA HCI to get to the MSCF from the non operational channel.
109	61-65	Slides 61-65 describe CI-21 Power Management . However, there is no B-Level spec for this CI (see slide 87).	Identify when CI-21B spec will be available for review.	A decision with ROC engineering was reached to not develop a B-level specification for Power management since the CI is composed of several pieces of COTS equipment.
110	62	Add note that you are going to very carefully re-balance the Prime Power like good boys (and girls)	...please.	We will identify our exact loads and the changes our equipment causes, but we are not going to do the actual rebalancing (outside our scope).
111	63,64,65	Reference Designators show on slides 63-65 for the Power Amplifier Unit, and Pedestal Control Unit, and other components that are being retained do not agree with Interconnecting Diagrams on Slide 94, linked documents 2000056, 2000057, 2000058, 2000059, 2000060, and 200065. Which is correct?	Please clarify what should be the correct designation for all legacy components that are being reused in the ORDA Design and adjust/correct Reference Designators accordingly so that they agree on all slides. Also, a related Action Item was submiited that requested clarication as to what Hardware Configuration Item will the Legacy comonents that are retained e.g., A2, A6, A7, A25 (which currently reports to UD5/105) be assigned.	The reference designators on the interconnection diagrams linked to Slide 94 are correct. Drawings on Slides 63 - 65 will be updated accordingly.
112	64	It is unclear at what level the RMS will be able to remove power to the system.	Add text and or graphics to acurately represent where and how the FAA RMS will be able to remove power to the system.	FAA can cycle power on the RCP8, RVP8, Router, and LAN switch.
113	64	It is unclear if the maintenance personnel will be able to remove power to Ch2 and still run Ch1. If so, how "completely" will this be able to be accomplished?	Add text and or graphics to acurately represent where and how the technician will be able to remove power to Ch2 and still run Ch1. This needs to be shown with respect to "bays" in an RDA set of cabinets.	There is a CCR to change this level of power removal for FAA systems as discussed in our 19 Feb 03 TIM. This is outside the scope of ORDA .
114	64	Particulary for the FAA System, AC Load Balancing is important (slides 40 and 73). Depending on where each channel's UPS power cord is plugged into PDP, it could affect load balancing. PDP 115 VAC outlets J1 and J3 are on Phase B while outlet J2 is on Phase C.	Determine which specific outlet to use on the PDP for ORDA components (via UPS). For FAA systems (or even for NWS Redundant), load balancing between the two channels can be achieved to some degree by using PDP outlet J1 on one channel and PDP outlet J2 on the other channel.	This is an excellent idea. We will attempt to balance each channel independently inside the UD90/190 cabinet in case a channel is powered down completely. This idea may give us more flexibility if there are significant loading problems. (This is a Rotary UPS issue.)
115	64	Power load balancing is particularly important for FAA systems. For FAA systems and possibly NWS Redundant systems, load balancing between the two channels can be achieved to some degree by using Primary Distribution Panel outlet J1 on one channel and Primary Distribution Panel outlet J2 on the other channel.	Not Provided	See Action Item 114.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
116	67	Add something about installing in KJAN	...please	We are awaiting guidance from the Government in regards to ex-KJAN. Once received, installation dates will be communicated.
117	73	Has there been any thought given to using ORDA to drive the phased array @3050MHZ??	Have a nice day	No. It is outside our scope.
118	73	Can the ORDA team discuss further plans for troubleshooting development and testing? Specifically, what do the following bullets mean?TroubleshootingPragmaticEfficient	provide additional details on plans for developing system troubleshooting techniques	We will be writing new troubleshooting procedures and flowcharts for the ORDA components.
119	73	Similar to my comment on slide 40, it is unclear as to how complete or system wide the 3-phase AC current load balancing will be.	Provide text to describe the scope of testing the load balancing and what the plans are if it is not balanced. The FAA systems must be addressed in particular because of the effort made to balance the system load as seen by the RUPS.	See Action Item 110 and 114.
120	73	This slide discusses "Planned Engineering Tests." What will be the level of formality of these tests? How will they relate to Component Testing? Will the results of the testing be available for review?	Provide detailed information as it becomes available. This request is motivated by MIL-STD 1521B, appendix E which states "Analytical and available test data shall be reviewed to insure the hardware Development Specification has been satisfied."	The Engineering Tests are not formal. We will use the engineering test as a basis for component level testing. Component Testing starts the formal testing cycle. Formal test reports will be published.
121	75	In the Initial Parts List, there are three DB62 type I/O cables listed for each channel. I thought only two are required.	Verify quantity of DB62 cables required.	The quantities will be updated, only 2 are required.
122	75	The Initial Parts List shows major assemblies and cables, but does not include piece parts (screws, nuts, washers, …) that are required in the final baseline. When will this information be provided?	Just a reminder that there are more parts required than show up on the list. There will be many piece parts (screws, nuts, washers, etc).	We will provide exact numbers after we install a prototype system.
123	76-83	Is there any new information in these charts that was not in the PDR charts 77-83 besides the explicit statement of the SIGMET warranty?	Is SIGMET warranty only one applicable? Will RSIS offer any additional warranty?	Team RSIS has an action to clarify this issue. We will be reviewing this issue with the COTR.
124	83	The statement of work requires a 1 year warranty from installation. Sigmet warranty is 1 year from delivery. Will ORDA contractor warranty the difference?	Not Provided	Team RSIS has an action to clarify this issue. We will be reviewing this issue with the COTR.
125	84	The meaning of this slide is not clear. Does it address required support from ROC Engineering, or does it represent items ORDA will provide? What do the sub-bullets "drafting" and "documentation" address?	Clarify meaning of slide bullets	The slide introduces topics to be addressed in the following slides. It is documentation that ORDA will provide to the ROC in regards to documentation and drawings for the ORDA system.
126	86	There is a minor error in the Transmitter to Signal Processor ICD 2620054. Paragraph 3.2 states: "..It controls the PRT setup for the Post Charge Regulator (3A8) inside the Receiver..." The Post Charge Regulator is in the transmitter.As a more general comment however, this ICD is missing quite a bit of technical information needed to properly develop and verify signal processor control of the transmitter.	Correct minor editing error. Additionally, I recommend maintaining a high priority regarding completion of this and other ICDs related to the Sigmet equipment interfaces.	We will update the ICDs. The Post Charge Regulator is in the transmitter and the documentation will be corrected. We will coordinate review of the ICDs with ROC SMEs.
127	86	This is a question regarding the Antenna/Pedestal to DAU ICD (2620049). In section 4.0 there is the statement: " ...need to investigate this, not using doublets with the Sigmet design". Can the ORDA team provide additional insight into this issue?	Provide additional information to ROC regarding possible changes to the pedestal control software design.	Team RSIS will investigate SIGMET's pedestal control program for efficiency and for meeting the Legacy VCP timing requirements during the production phase.
128	86	The Antenna Pedestal to RDA Control Processor ICD 2620014 and the Antenna/Pedestal to DAU ICD 2620049 each contain a reference to the analog antenna position interface for Archive 1. (Para. 3.1.3 Analog Interface). This interface was never used by the legacy Archive 1 device and will not be needed for the proposed new Archive 1 system.	I'm not sure what to recommend here. The interface is not needed, but causes no problems. The ORDA team may want to consider a means to delete this requirement and the associated hardware.	We will update the ICD to remove references to the analog antenna position interface. We will coordinate review of the ICDs with ROC SMEs.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
129	86	There may an inconsistency in the ICD structure regarding the pedesal, DAU, and RDA Control. This may have resulted from the creation of the new DAU specification driven by the decision to make the DAU a separate CI. ICDs 2620014 Antenna Pedestal to RDA Control Processor, and ICD2620049 Antenna Pedestal to DAU, contain essentially the same information, pedestal rate and position commands, interlocks, and analog signals. ICD 26200,1 DAU to RDA Control Processor, does not contain the antenna rate and position digital data. Should this data be contained in all three ICDs, or only in one?	Examine the ICD stucture regading the pedestal, DAU, and RDA Control Processor to determine if pedestal control data is needed in all three, or if just one (RDA Control to Antenna Pedestal) would be sufficient.	As indicated in slide 86, the ICDs are not complete. They will be reviewed for inconsistencies and repetitions. We will coordinate review of the ICDs with ROC SMEs.
130	86	This is a question regarding the Antenna/Pedestal to DAU ICD (2620049). In section 4.0 there is the statement: " ...need to investigate this, not using doublets with the Sigmet design". Can the ORDA team provide additional insight into this issue?	Provide additional information to ROC regarding possible changes to the pedestal control software design.	See Action Item 127.
131	86	We note that the link for the Archive 1 ICD is an image of the legacy ICD. We assume this is a placeholder only and not formatting guidance. ROC Engineering is writing an ICD based on a format supplied by the ORDA Support Team.	Confirm format requirements for the Archive I ICD	This is just a placeholder. The Archive I ICD is ROC's responsibility.
132	86	Why is ROC responsible for Archive I ICD	answer the question	Team RSIS is contractually responsible for the Archive I Interface Connection only. See Action Items 83, 105 and 131.
133	Duplicate			
134	86,87	Slide 86 refers to ICD 2620025 Signal Processor to Archive I. Slide 87 links to Signal Processor B2 2830014. Contained within 2830014 are references to IRS 2820059. We believe the references to IRS 2820059 are obsolete.	Update Signal Processor B2 to reflect Archive I ICD 2620025 vice IRS 2820059.	See Action Item 129.
135	86,87	We note that there is no B2 specification listed for the Archive I system, but there is a C1b identified. ROC Engineering is working on requirements and design for the Archive I device and can supply a document that addresses both. Does the ORDA team desire or require a B2 for Archive I or will a design/ engineering operations document suffice?	Clarify documentation requirements for the Archive I device.	ROC engineering is responsible for the Archive I design. Team RSIS needs the ICD to provide an operational interface. See Action Item 132.
136	86,87,88	There are multiple instances of contradictory information that appears in the various Design and Prodocut documentation that needs to be corrected. For example, in the B2 Specification for the DAU, CI-15, Linked document 2830016, the requirement for the DAU to monitor at least 30 discrete status signals and 20 analog signals has been removed. However, the same requirement still exist in the Tower/Utilities to DAU ICD, Linked document 2620033. In addition, there are several references to the Generator and Equipment Shelters Halon system, which no longer exist in the baseline. Also, Discrete signals for the TPS are not included in ICD 2620033. There are other instances of incongruent information.	Recommend a thorough review of each design level document to insure each document agree throughout. Since this may be a time-consuming effort, recommend this action be accomplished under the V&V effort. If updated documents are needed for the CDR, then recommend the ORDA V&V Lead be contacted for guidance and assistance. Alternately, the leader slides shoulld state that these documents are still in their draft form and will be updated to reflect the correct information.	See Action Item 129.
137	86	There appears to be an inconsistency in the ICD structure regarding the pedestal, DAU, and RDA Control. This may have resulted from the creation of the new DAU specification driven by the decision to make the DAU a separate CI. ICDs 2620014 Antenna Pedestal to RDA Control Processor, and ICD2620049 Antenna Pedestal to DAU, contains essentially the same information, pedestal rate and position commands, interlocks, and analog signals. ICD 26200,1 DAU to RDA Control Processor, does not contain the antenna rate and position digital data. Does the ORDA Team expect to condense these ICDs or keep them as depicted in the CDR package?	Not Provided	The ICDs will remain as separate ICDs. See Action Item 129.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
138	86	There is a minor error in the Transmitter to Signal Processor ICD 2620054. Paragraph 3.2 states: "..It controls the PRT setup for the Post Charge Regulator (3A8) inside the Receiver..." The Post Charge Regulator is in the transmitter. As a more general comment however, this ICD appears to be a skeleton. Timing diagrams and the purpose of each signal necessary for analyzing the interface are examples of missing technical information. When will the ORDA Contractor complete this ICD?	Not Provided	See Action Items 126 and 129.
139	87	CI-06, Wideband Communication B2 Specification missing from the list of documents.	Add the B2 specification for CI-06 to the list of documents that must be revised. This is because requirements associated with ORDA Communications have been eliminated from the ORDA design. Also, CI-06 must remain in the baseline to account for the MLOS configured RDA and RPG sites. This will requre update to the associated B2 specification for removal of the Wideband requirements and to account for the MLOS requirements that will remain.	ROC has added CI-06 back into the Product Structure.
140	87	In CI-14 B spec sections 3.1.2.1,2,3 only three out of the four signal processor functional areas are included. Is clutter filtering part of S/W that is not included in 3.1.2 subsections. Or is being described using a different term ("clutter suppression" as in Section 3.2.1.2.2.4 Point Clutter Suppression (Speckle Filter)) ?	Check references to "clutter filtering" vice "clutter suppression." Make appropriate editorial updates as needed.	See Action Item 129.
141	87	Object ID 53: of the B2 Specification for the RDA Control Processor for CI-15, Linked document 2830015, erroneously cites CPCI-25 for the Radar Control Program. Should read CPCI-19.	Please cite the correct CI number for the Radar Control Program, CPCI-19 in the Object text for Object ID 53.	We will update the documentation.
142	87	The CI-04 B spec does not address the digitization requirement. Where is this specified? The CI-14 B spec (par 3.1.2.1) indicates that it receives an IF signal from the receiver but does not specify A/D converter requirements.	Provide clarification of the digitizer location as well as detailed performance specifications. The CI-09 B spec states that the receiver (CI-04) will process the RF signals into I, Q and log video data. If the digitizer is part of CI-14 then it needs to be specified in more detail in the CI-14 B spec. Provide details of the A/D converter and related performance information.	The digitizer will be located in CI-04. The digitizer performance specifications will be documented in CI-04 B Spec.
143	87	We note that the link to 2830011 Pt 1 C1b - Archive 1 is actually a copy of the Archive 2 C1b. Is this for place holding or formatting guidance for the Archive I C1b? Is there a requirement for an Archive 1 C1b (or B2) since Archive I equipment is technically not baseline? Our understanding is that the only baseline document requirement is for an ICD (which was the case with the legacy RDA).	Please clarify baseline documentation requirements for the Archive 1 system.	See Action Item 135.
144	Duplicate			
145	87	There are multiple instances of contradictory information that appears in the various Design and Product documentation that needs to be corrected. For example, in the B2 Specification for the DAU, CI-15, Linked document 2830016, the requirement for the DAU to monitor at least 30 discrete status signals and 20 analog signals has been removed. However, the same requirement still exists in the Tower/Utilities to DAU ICD, Linked document 2620033. In addition, there are several references to the Generator and Equipment Shelters Halon system, which no longer exists in the baseline. Also, Discrete signals for the TPS are not included in ICD 2620033. Will these items be corrected prior to Software CDR?	Not Provided	See Action Item 137.
146	88	All of the C specification on this slide needs to be sanitized to remove all references to the Proof of Concept (POC) design and legacy components that will be replaced by the new ORDA design.	Sanitize all C-specifications to remove components being replaced and delete all refrences to the POC design.	We will update the documentation.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
147	88	C2 Product Specification for CI-06, Wideband Communication, missing from the list	The C2 specification, and assopciated engineering drawings for CI-06, must be updated to account for the removal of the VME Wideband Modules (LRUs) from the WSR-88D Baseline. The Design; However, the MLOS equipment associated with RDA and RPG Communications Links at those sites configured as MLOS will remain in the WSR-88D Baseline. These must be accounted for in the C2 Product Specification for CI-06.	See Action Items 78 and 139.
148	88	I realize the C specs are not required yet, but, for CI-04, the 50% completion estimate seems high for something that is only a cut and paste of the original document; Revision G dated 12/8/93 , old spec # (DV…) & still lists UNISYS.	Revise % complete.	Noted
149	88	This slide erroneously identifies the Specification for the Archive II equipment as Archive I. There is currently no SS requirement for the Archive I equipment. The requirement is for and Archive Interface capability only. Specifiation number 2830011, Pt 2 applies to Archive II. There are currently no Configuration items assigned for the Archive I requirement, hence no design or product specficiations exist.	Please correct Slide 88 to remove the specification number cited for the Arcive I, Linked document 2830011, Pt 2.	We will investigate and remove.
150	88	The Archive 1 C1b should be removed from slide 88. There is no C1b for Archive I.	Not Provided	We will investigate and remove.
151	89	Slide 89 gives a very high-level overview of the Drafting process. The ORDA Configuration Management (CM) Plan provides more detail. On figure 3 and 4 of the CM Plan, “ROC CMT/ Engr” action is indicated. Does this mean ROC CM Team and ROC Engineering? If yes, with the current Agile setup of hiding drawings and ECO’s from users external to the ORDA project, how are ROC Staff to perform these actions?	Not Provided	CM and Drafting Plan will be updated. ROC CM and ROC ENG will provide SME guidance.
152	90	ECOs must be written for each Legacy Cable assembly that is becoming obsolete. Disposition of each cable assembly should be recorded on the ECO. This also applies to other obsoleted LRUs. When will this be completed?	Not Provided	ECOs will be written by ORDA Team RSIS for all obsoleted legacy cables and LRUs. ECOs will be processed by the ROC after the last ORDA system is deployed (12/05).
153	90	Notification of Obsolecence of Legacy Cable Assemblies.	Suggest ECOs are written for each Legacy Cable assembly that is becoming obsolete. Disposition of each cable assembly should be recorded on the ECO. This also applies to other obsoleted LRUs.	See response to Action Item 152
154	90	There are 131 Legacy parts listed for obsolescence. Please confirm that the ORDA contractor will prepare ECOS for these items.	Not Provided	See response to Action Item 152
155	90	# of Replaced Legacy LRUs	Who is responsible for preparing ECOs against the 131 Legacy parts for obsolecence?	See response to Action Item 152
156	92	Is there some reason to convert from 11x50 to 11x17 format? Will this save money on this contract or somewhere else? Does total of 367 figures include the 326 in the format conversion?	Please explain **need** to convert from 11x50 to 11x17 format	Yes. ROC DT says they pay at least $1.50 per 11x50, but the cost of 11x17 is $0.04. Furthermore, ROC DT requires the maximum EHB 6-515 TM figure size to be no greater than 11x17.
157	93	Will outsourcing of drawings have any cost / schedule impacts? Any risks?	Address pros / cons of outsourcing drawings	RSIS considered this issue before awarding the sub-contract.
158	94	"ICD" is used to refer to interconnection diagrams, whereas slide 86 shows the traditional ICDs (Interface Control Documents).	Do not refer to interconnection diagrams as ICDs. Use either "IcDs" or "IDs" for these diagrams. (Of course, "IDs" often refer to identifiers, so this may not be a good alternative.)	Noted
159	94	Interconnection Diagrams	Have considerations been given for KCRI Channels 1 and 2 and Training site configurations at this time?	ICDs will be updated to reflect our final configuration.
160	94	Product Drawings	Is there a family tree which shows the different parts and how they will be broken down with their Ref Des, or did I miss it?	We are preparing an ORDA Family Tree and will be provided for provisioning and FCA/PCA.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
161	99	Per HW Component Test Plan: Is the RVP8 power supply (mention in section 3.1.2.2) redundant like the RCP8/RCW power supply (mentioned in section 3.1.2.1) ? Slides 52 & 55 show both are dual redundant.	Correct HW Component Test Plan as needed.	The HW Component Test Plan is correct. There is no difference between the RCP8 and RVP8 CIs with respect to power supplies. The production models will include redundant power-supplies.
162	99	Per HW Component Test Plan: Per section 3.1.2.x, both the RCP8/RCW & the RVP8 have 1 Gbyte flash drive (this was not mentioned on Slides 52 & 55). Since the documentation found on the SIGMET web site (rvp8thec.pdf) usually speaks of a HD or Flash Drive, is this a special configuration? What is contained in the flash? Is it changeable?	Please explain usage of Flash vs HD.	The HW Component Test Plan is correct. It states that the RCP8 and RVP8 HWCIs both include >20GB hard disks. The production models will have >20GB hard disks regardless of SIGMET website documentation.
163	99	Per HW Component Test Plan: Per Section 4.1.4, what is "PUI"	Please explain.	Per J-STD-016-1995, a PUI is a Project Unique Identifier. The concept of a PUI is first used in the J-STD-016-1995 standard in paragraph E.2.2 titled, Software Test Plan.
164	99	The ORDA Hardware Component Test Plan, Section 4.1.3 states: "The ORDA test engineering team will not perform environmental testing, such as humidity and altitude, on any hardware." See comment for Slide 42.	If no commponent testing will be performed in the humidity and altitude areas for hardware components, please specifiy how the ORDA Project plans to indicate compliance with the SS in these areas. In lieu of testing, White Papers and/or Trade studies with the required information must be made available so that an accurate assessment (Analysis of Data) can be made as to whether or not the proposed components meet or exceed the SS requirements. If not waivers to the SS must be submitted.	See Action Item 77.
165	99	When will the other HW Component Test documentation be available?	Specify availability dates.	Per the TEMP and the SOW, the HW & SW Component Test Plans are deliverable at CDR. The SW & HW Component Test Descriptions are developed and updated during the Component Development & Test Phase with delivery by the Integration Test Readiness Review. The Test Reports will be delivered 30 days after ITRR. The WBS will provide delivery dates.
166	99	The ORDA Hardware Component Test Plan states “The ORDA test engineering team will not perform environmental testing, such as humidity and altitude, on any hardware.” How will the ORDA Contractor prove they meet the System Specification requirements for Temperature, Humidity, Pressure, and Altitude?	Not Provided	See Action Item 77.
167	101	On slide 101, a link is given to a QSCO process description. The description references ORDA-WPI-004 in two critical areas: Updating/Creating Drawings and ECO’s. ORDA-WPI-004 is hidden from the ROC and therefore cannot be reviewed. Can a copy of this be forwarded to ROC Drafting for review?	While reading the QSCO process it references ORDA WPI-004, I do not have access to this document.	A copy can be provided.
168	101-102	Are the "hot links" on page 101 & 102 suppose to point to the same file? Is item on page 101 the "work order" and the item on page 102 the "instructions"?	Verify links and add new information if needed.	Yes, the links are directed to the same file. The file was provided on each slide as a convenience to the viewer.
169	105	Where is the loading of the Adaptation addressed on the graphic?	Change "Load Remaining SW" to "Load Remaining SW and Data"	Adaptation Data will be loaded at installation, not assembly. We will update the documents.
170	106	On slide 106, List of LRU’s, 90A11A2 and 90A12A2 are the wrong Reference Designators for Powers Supplies. The correct Reference Designators should be 90A11PS1 and 90A12PS1.	Not Provided	We will update the documentation.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
171	106	# of ORDA LRUs	On the attachment the Reference Designator for the Routers are 90/190A4 and 90A4, they should be 90/190A4A1 and 90A4A1 and the modules that plug into them should follow suit (based upon the th stamped locations assigned by CISCO (example A0, A1, W1 etc)	We will update the documentation.
172	106	List of LRUs	In your list of LRUs, you list 90A10 as a Keyboard, Monitor, Touchpad, and KVM Assembly. Can any one of the components be separated from the other? If so this may be an assembly but the component parts will be the LRUs.90A11A2 and 90A12A2 These are the wrong Reference Designators for Powers Supplies. The correct Reference Designators should be 90A11PS1 and 90A12PS1.	No, this is a single LRU.
173	108	Although COTS cables (slide 108) may be COTS, the legacy re-use cables are not and there are approximately 66 of them. They are long lead items 4-6 months. They will need to be specified in the sparing concept PPL. The ORPG project also reused cables during deployment. They found that in some instances 60% of the reused cables failed and had to be reprocured. What analysis had been done to ensure that NLSC stock will cover failed cables and that long lead time cables will be procured in time to not slow down deployment?	Although all new ORDA cable assemblies are COTS, the legacy re-use cables are not and there are approximately 66 of them, and they are long lead 4-6 months. They will need to be specified in the sparing concept PPL.	We are only moving a few cables (8). We will order a limited number of harness spares and are aware of the long lead time. Majority of cables will only be re-labeled. Re-labeling will not cause a high failure rate.
174	108	Slide indicates "Formal Tests Will Verify That System Specification Requirement ID (#SS23083-30 Minute Remove/Replace) Has Been Met". I assume this is discussing an M-Demo (Maintenance Demonstration) but that term has not discussed in the CDR. A formal M-Demo may need its own plan.	Determine M-Demo requirements and determine if a unique plan is needed.	The Maintenace Demo will be included with the Pre-Beta Acceptance Test.
175	108	Slide indicates there is a 30 minute requirement for Remove and Replace. The 30 minute requirement is actually for MTTR which includes the following 8 items according to the SS: Localization, Preparation, Isolation, Disassembly, Interchange, Reassembly, Alighment, and Checkout.	Validate and further define MTTR requirements/testing.	The MTTR requirements will be demonstrated during Pre-Beta Acceptance Test.
176	108	This only speaks to lead times for cables, not all the other parts.	Add text pertaining to the rest of the parts involved.	Our procurement process will account for lead times on all components.
177	108	The System Specification requirement referenced on slide 108 is for the MTTR and includes items for localization, preparation, isolation, disassembly, interchange, reassembly, alignment, and checkout, not just remove and replace. Will your formal tests include these?	Not Provided	See item 175.
178	111	The EHB 6-515 outline doesn't list some areas we have typically used in Chapter 4. These include such areas as: 1) Controls and Indicators, 2) Software Startup/Shutdown/Restart (independent of power up/down procedures), 3) Software loads, 4) Software backup and restoral (if necessary), and 5) Use of adaptation data (load, modify, save, restore). I assume that terminal/GUI use and general information on off-line diagnostics (e.g., STS) will end up in the user's manual (-1 or -2 is used)?	Determine where these items will be discussed in the manuals and add as necessary.	These topics will be addressed in either the TM or User's Manual; determination of exact location will be made before the final 30% review in July '03.
179	Duplicate			
180	112	In Chapter 6 - Maintenance on page 6-6, in Table 6-1, the CW Substitution Reflectivity error check procedure is still listed as one of the legacy procedures that will be required for maintenance. But at the bottom of this 30% Draft EHB 6-515 slide there is a statement that "draft Contains Legacy Content as Placeholder" From those statements I can't tell if the CW Substitution check is planned for the ORDA. Please clarify the present thinking on this test.	Not Provided	Calibration routines will be added to EHB 6-515 as they are designed and proven-in on ORDA. The ROC engineering white paper on calibration and TIMs with ROC engineering will ensure that proper checks are included. The legacy routines, including the CW Substitution Reflectivity error check procedure, will be used as an example in ORDA design.

Action Item #	Slide Number	Action Item Description	Suggested Action	RSIS Response
181	113	There is no description of the agencies involvment in tech. manual reviews.	Describe if and how the agencies will be involved in tech. Manual reviews.	See Technical Manual Plan.
182	114	Technical Manual EHB 6-515 Process	The next to last block reads "TM Validation & Incorporate Corrections" This should read TM Verification & Incorporate Corrections. See TM-86-01 ORDA Page 5 Paragraph 1.3.2	We will update the documentation.
183	117	Training for ROC Operations Branch personnel is presently scheduled for Winter 2003/2004. The Radar Operations Team needs the training by not later than September 2003, July 2003 would be best.	Move ORDA training for ROTpersonnel to July 2003.	No, ORDA software will not be complete enough for effective training in July 2003.
184	117	Training	Train the ROC StaffPlease be aware that Documentation has 2 El-Techs which will need the training also.	Concur.
185	Duplicate			
186	117	Will the ORDA Contractor be required to perform a maintenance demonstration and, if so, when will it occur?	Not Provided	See Action Item 174.
187	119	How may teams will be needed to complete 3-4 deployments per week? Will a "surge capability" be required?	Identify estimated due date for Deployment Schedule	Each team will install 1 ORDA per week. The latest deployment schedule is under Gov't review.
188	119	Who is RadTech?	Explain RadTech and what their qualifications are.	RadTech is a weather radar contractor out of Colorado with experience in retrofitting SIGMET equipment into radar systems. Team RSIS will fully train RadTech teams on ORDA installation.
189	120	It is not clear whether this map just shows which team will go where, or the actual order.	Clarify what exactly this map is telling us. If it is describing the order it probably needs to be changed.	This preliminary deployment map shows the order of deployment. We plan to have no concurrent installations for any FAA systems per TIM discussion with FAA. The latest deployment schedule is under Gov't review.
190	122	Slide does not indicate when the FCA/PCA will be conducted although they are required for deployment decision. When will these two audits be performed?	Include the FCA/PCA bubbles in the slide since theoretically, deployment should not begin until this required review is accomplished.	See Action Item 22.